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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,441

08/20/2003

Donald W. Dine

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7039

35758

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02/13/2006

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/644,441

Applicant(s)

DINE ET AL.

Examiner

Greg Binda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9-14,20,21 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-14,20,21 and 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Election/Restrictions*

2. Claims 31 & 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 7, 2004.

*Claim Rejections - 35 USC § 112*

3. Claims 1, 2, 4-7, 9-14, 20, 21, 23-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has not pointed out where the following limitations are supported, nor does there appear to be a written description of the limitations in the application as originally filed:

- a. Claim 1, lines 2 & 3: all limitations therein.
- b. Claim 9, lines 2-4: all limitations therein.
- c. Claim 14, lines 3 & 4: all limitations therein.

4. Claims 9-13, 23 & 28-30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Claim 9 recites the limitation "an interior surface of said metal tube" in lines 9 & 10. It is not clear if this surface is the same as, or different from the inner surface recited at line 3.

*Claim Rejections - 35 USC § 102*

5. Claims 1, 2, 5-7, 9, 10, 12-14 & 23-30 are rejected under 35 U.S.C. 102(b) as being anticipated by McNeely, US 4,560,012. Figs. 1-4 show a propeller shaft assembly comprising: a tubular metal shaft 32 (see also col. 5, lines 56-60); a connecting member 40, 41 fixed to each end of the tubular member; and a tubular support member 33a having a generally uniform outer diameter along its entire length engaging the interior surface of the tubular member. Figs. 1-3 show the ratio of the length of the support member 33a to the length of the tubular shaft 32 is greater than 0.25 and less than 1.0. In col. 4, lines 9-15, the tubular support member 33a is disclosed as rigid, foamed, cellular and impregnated with resin or cement. Figs. 1-4 show the inner surface of the tubular support member 33a forms a cylindrical cavity (indicated by numeral 35 in Figs. 2 & 4).

6. Claims 1, 6, 24 & 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Clifford, US 373,339. Figs. 1 & 2 show a propeller shaft assembly (see also the title) comprising: a metal tubular member 'c' having an outer surface and an inner surface that are both defined by a corresponding invariable diameter (see also "same thickness throughout" in line 45); a tubular support member 'b' having an outer surface and an inner surface that are both defined by a corresponding invariable diameter (see also "same thickness throughout" in line

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45), the outer surface engaging the inner surface of the tubular member 'c' to increase the bending frequency of the propeller shaft assembly; and a connecting member 'd' fixed at each end of the tubular member (see also lines 49-53).

7. Claims 1, 4, 6 & 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Dewmille et al, US 6,530,137. Fig. 1 shows a propeller shaft assembly comprising: a metal tubular member 10 having an outer surface and an inner surface that are both defined by a corresponding invariable diameter; a tubular support member 3 having an outer surface and an inner surface that are both defined by a corresponding invariable diameter, the outer surface engaging the inner surface of the tubular member to increase the bending frequency of the propeller shaft assembly; and a plurality of openings 4 formed along the length of the tubular support member.

*Claim Rejections - 35 USC § 103*

8. Claims 20 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNeely. McNeely shows an assembly comprising all the limitations of the claims, but does not expressly disclose making the tubular member with a thickness generally less than 8 mm and an outer diameter between 40 and 300 mm. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the tubular member with a thickness generally less than 8 mm and an outer diameter between 40 and 300 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056.

9. Claims 4 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNeely in view of Schuermann, EP 0 471, 240. McNeely shows all the limitations of the claims except a plurality of openings formed along the length of the tubular support member 33a. Schuermann teaches (see particularly page 5, lines 4-7 of the English language translation provided with the previous Office action) that making a tubular support member with a plurality openings provides a means for reducing weight. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the propeller shaft of McNeely by providing the tubular support member with a plurality of holes in order to provide shaft with a means for reducing weight as taught by Schuermann.

*Response to Arguments*

10. Applicant's arguments filed Dec 7, 2005 have been fully considered but they are not persuasive. Applicant argues that McNeely fails to anticipate the claims because it fails to mention a tubular support member having an inner surface defined by an invariable inside diameter, the inner surface forming a cylindrical cavity. However, in Figs. 1-4, McNeely shows the tubular member 33a having an inner surface defined by an invariable inside diameter, the inner surface forming a cylindrical cavity.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

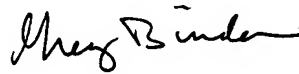
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda  
Primary Examiner  
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